DEPARTMENT OF CIVIL ENGINEERING
19CEB301 – SOIL MECHANICS
UNIT II – SOIL WATER & WATER FLOW

STUDENT'S WORKSHEET - 1
SOIL WATER

CHOSE THE BEST ANSWER

1. It is capable of moving under hydrodynamic forces unless restricted in its free movement such as when entrapped between air bubbles or retention by capillary forces.
   (a) Held water (b) Pore Water (c) Structural Water
2. Water which is held by fine grained soil particles due to electro chemical force of adhesion.
   (a) Absorbed water (b) Capillary Water (c) Structural Water
3. Water is free to move through a soil mass under the influence of gravity.
   (a) Held Water (b) Free Water
4. The maximum pressure deficiency in capillary water is called
   (a) Soil Suction (b) Capillary Fringe
5. The zone of soil strata saturated with capillary water is called
   (a) Soil Suction (b) Capillary Fringe

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STUDENT'S WORKSHEET – 2

EFFECTIVE STRESS PRINCIPLE

FIND OUT DIFFERENCE BETWEEN CONDITIONS OF FLOW OF WATER IN EFFECTIVE STRESS & FORM THE MATRIX

PROBLEM /CONDITION				

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STUDENT'S WORKSHEET – 3

PERMEABILITY OF SOIL

1. **Define Permeability**

2. **State Darcy's Law**

3. **Mention the methods to determine the coefficient of permeability of soil in lab.**

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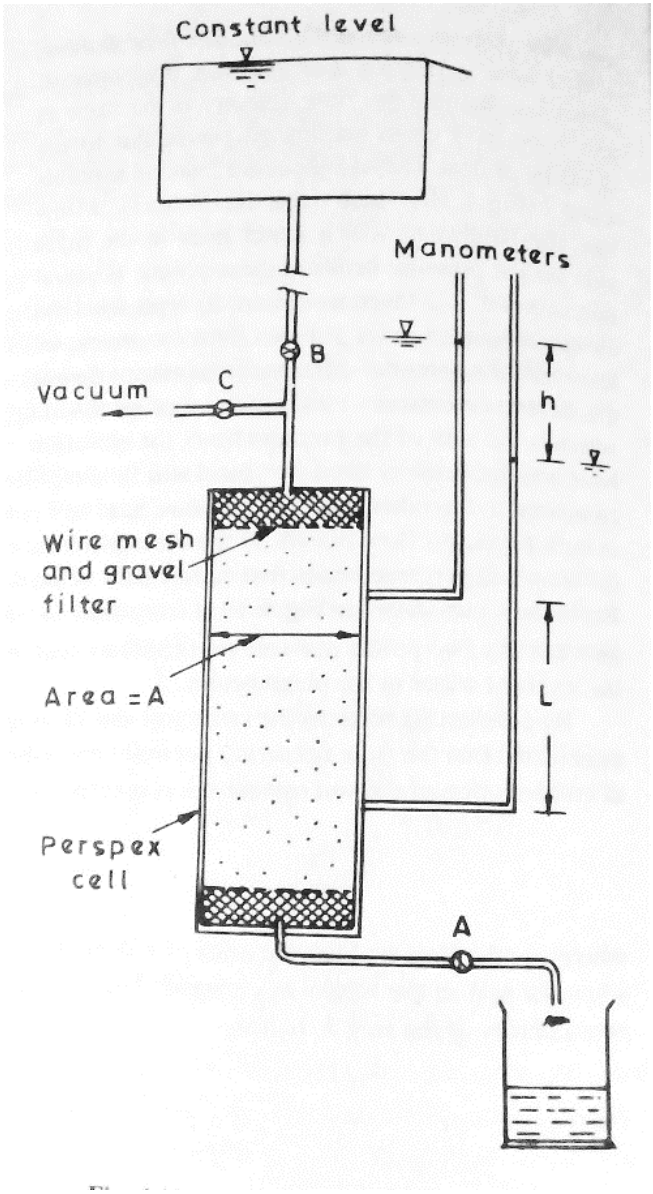
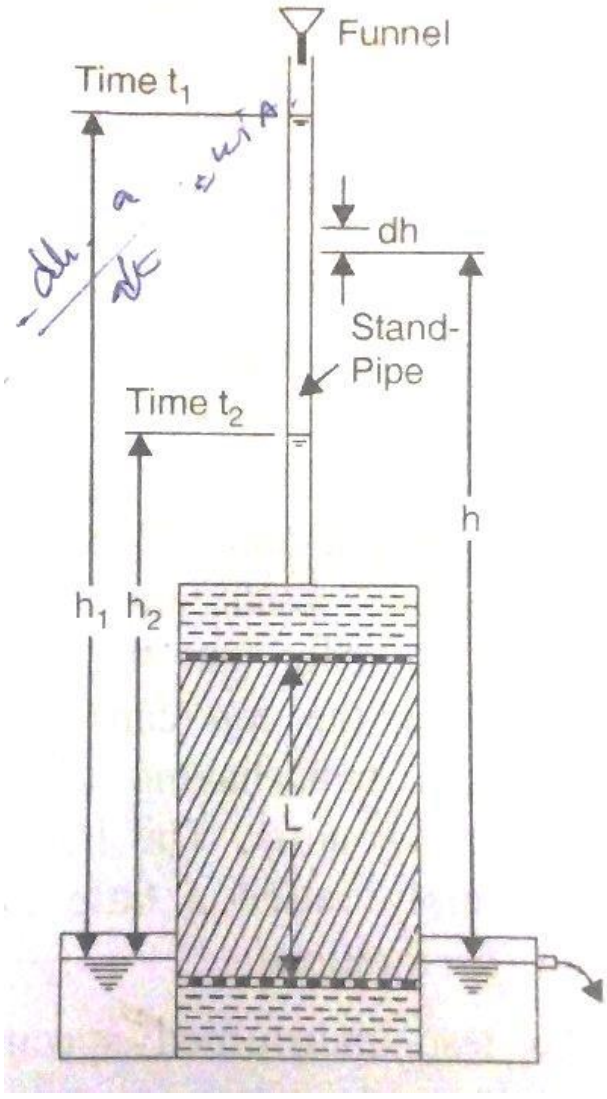
STUDENT'S WORKSHEET – 4

DETERMINATION OF COEFFICIENT OF PERMEABILITY

Find out constant head method and falling head method from the picture and differentiate the two methods





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STUDENT'S WORKSHEET – 5

DETERMINATION OF COEFFICIENT OF PERMEABILITY – FIELD METHOD

Draw a story chart for determining the coefficient of permeability of soil in field.

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STUDENT'S WORKSHEET – 6

FACTORS AFFECTING PERMEABILITY OF SOIL

Word Search – Find out the factors affecting permeability of soil

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STUDENT'S WORKSHEET – 7

PROPERTIES OF FLOW NET

Say Yes/No to the following questions

1. Flow lines and equipotential lines cut each other at any angles.
2. Each field is an approximate a circle. In a well-constructed flow net one should be able to draw a circle in a field touching all the four sides.
3. In a homogeneous soil, every transition in the shapes of the two types of curves will be smooth, being either elliptical or parabolic in shape.
4. The rate of flow through each channel is different.
5. The same potential drops occurs between two successive equipotential lines.